Title (en)

A LASER DIODE WITH AN AMPLIFICATION SECTION THAT HAS A VARYING INDEX OF REFRACTION

Title (de)

LASERDIODE MIT EINEM VERSTÄRKUNGSTEIL, DER EINEN VARIIERENDEN BRECHUNGSINDEX AUFWEIST

Title (fr)

DIODE LASER COMPRENANT UNE PARTIE D'AMPLIFICATION QUI PRESENTE UN INDICE DE REFRACTION VARIABLE

Publication

EP 1481451 A2 20041201 (EN)

Application

EP 03717938 A 20030304

Priority

- US 0306875 W 20030304
- US 36175002 P 20020304
- US 37902703 A 20030303

Abstract (en)

[origin: WO03077387A2] A high powered laser diode that includes a pumped stripe section with a varying index of refraction. The varying index of refraction can reduce the self-focusing phenomenon found in high powered laser diodes in the prior art, thereby providing a high quality output beam. The index of refraction can vary from one side of the pumped stripe section to the other side of the pumped stripe section. The index can be varied by varying a structural characteristic of the pumped stripe section such as the doping or thickness of the layers within the laser diode. A thermal gradient can be created across the pumped stripe section to vary the index of refraction. The thermal gradient can be created by integrating a heating element along one side of the pumped stripe section or creating unequal current flow through the pumped stripe section.

IPC 1-7

H01S 5/00

IPC 8 full level

H01S 5/026 (2006.01); **H01S 5/042** (2006.01); H01S 5/06 (2006.01); H01S 5/10 (2006.01); H01S 5/20 (2006.01)

CPC (source: EP KR US)

H01S 5/04254 (2019.07 - EP US); **H01S 5/10** (2013.01 - KR); H01S 5/0612 (2013.01 - EP US); H01S 5/1053 (2013.01 - EP US); H01S 5/106 (2013.01 - EP US); H01S 5/204 (2013.01 - EP US); H01S 2301/18 (2013.01 - EP)

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE SI TR

DOCDB simple family (publication)

WO 03077387 A2 20030918; **WO 03077387 A3 20040129**; AU 2003222255 A1 20030922; CA 2477987 A1 20030918; CN 100409512 C 20080806; CN 1669193 A 20050914; EP 1481451 A2 20041201; EP 1481451 A4 20051005; JP 2005527108 A 20050908; KR 20040101270 A 20041202; US 2003231681 A1 20031218; US 7269195 B2 20070911

DOCDB simple family (application)

US 0306875 W 20030304; AU 2003222255 A 20030304; CA 2477987 A 20030304; CN 03805248 A 20030304; EP 03717938 A 20030304; JP 2003575481 A 20030304; KR 20047013878 A 20030304; US 37902703 A 20030303